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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/748,878	12/30/2003	James J. Riches	SC12661J	8439
20576	7590	02/23/2005	EXAMINER	
MILLER JOHNSON SNELL CUMMISKEY, PLC 800 CALDER PLAZA BUILDING 250 MONROE AVE N W GRAND RAPIDS, MI 49503-2250			LE, DINH THANH	
		ART UNIT	PAPER NUMBER	
			2816	

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/748,878	JAMES J. RICHES
	Examiner DINH T. LE	Art Unit 2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-15 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/30/03</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Specification

The specification has been checked to the extent necessary to determine the presence of all possible minor errors. However, the applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections

Claim Rejections - 35 USC § 112

Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Correction or clarification is required.

In claim 1, it is unclear what the ““measured time constant” on line 3 and “predetermined events” on line 7 are, where the time constant comes from and how is can be measured.

In claim 2, it is unclear how the integrator can be “placed into a unity gain mode”. The recitation “its input offset voltage” on line 4 lacks clear antecedent basis.

In claim 3, it is unclear what the ““accumulator” on line 1, “one component network” on line 2 and “continuous filter” on line 3 are and where they comes from and how they are read on the preferred embodiment. Insofar as understood, no such components are seen on the drawings. The description of the present invention is incomplete because the accumulator is not connected to anything. Thus, the claimed accumulator may not perform the recited function. The same is true for claim 9.

In claim 5, the recitation “RC time constant” on line 2 is confusing because it is unclear if this is an additional “time constant” or further recitation of previously claimed “time constant” on line 3 of claim 1.

In claim 8, the recitation “the RC time constant” on line 5 and “the single comparator” on line 9 lacks clear antecedent basis. It is unclear how the reference signal on line 8 can be “multiplexed” since no means for performing the multiplexing function is recited.

In claim 10, it is unclear what the “continuous time filter parameters” are.

In claim 11, it is unclear what the “comparator delay and offset” are, where they come from and how they can be canceled by the comparator since no means for performing the canceling function is recited in the claims.

In claim 12, the recitation “the compensation circuit” lacks clear antecedent basis. It is unclear where it come from.

In claim 14, the recitation “the RC time constant” on line 4 lacks clear antecedent basis. The recitation “buffer and integrator” and “a predetermined range” on line 14 is confusing because it is unclear if this is additional “buffer and integrator” and “predetermined range” or further recitation of the previously claimed “buffer and integrator” online 3 and “predetermine range” on line 13.

In claim 15, the recitation “the value” on line 3 lacks clear antecedent basis and it is unclear what the value is.

The remaining claims are dependent from the above claims and therefore also considered indefinite.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 are rejected under 35 USC 103 (a) as being unpatentable over Comino et al (US 5,914,633) in view of Simmons (US 4,137,504).

Comino et al discloses in Figure 2A a filter circuit comprising:

- an integrator (30) for providing a ramped voltage output proportional to a measured RC time constant (42, 44);
- a comparator (32, 34) for sensing both the ramped voltage output from the integrator and a plurality of reference signals (54, 56);
- a timer (38) activated by the comparator for counting a time period between predetermined events; and
- wherein the timer is activated when the ramped voltage output from the comparator crosses a first predetermined voltage level and deactivated when the integrator crosses a second predetermined voltage level;
- a transmission-gate (46) for resetting at least one capacitor in the integrator; and
- wherein the integrator is placed into a unity-gain mode for the purpose of sensing.

However, Comino et al does not disclose a buffer for charging the integrator. Simmons teaches in Figure 2 a buffer (212) placed before an integrator (220, 221) for providing a starting point to increase ramp signal, see lines 27-40, column 5. It would have been obvious to a person having skill in the art at the time the invention was made to employ the buffer taught by Simmons in the circuit of Comino et al for the purpose of providing a starting point to increase the ramp signal.

Claims 8 and 13 are rejected under 35 USC 103 (a) as being unpatentable over Comino et al (US 5,914,633) in view of Simmons (US 4,137,504) and further in view of Park (US 5936566).

Comino et al in view of Simmons teaches a circuit with all of the limitations of the claimed invention as stated above but does not disclose that the reference voltage signals (54, 56) are multiplexed. Park teaches in Figure 2 a selectable reference voltage circuit comprising a divider (202) and a multiplexer (204) for providing selectable reference voltages for a comparator (206, 208). It would have been obvious to a person having skill in the art at the time the invention was made to employ the selectable reference circuit taught by Park in the modified circuit of Comino et al for the purpose of providing selectable reference voltage signals.

Allowable Subject Matter

Claims 14-15 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Claims 3-7 and 9-12 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The claims are allowed because the prior art of record does not show the accumulator as

combined in claims 3 and 14, the offset compensation circuit as combined in claim 6, the digital controller as combined in claim 7 and the comparator which cancels out comparator delay and offset as combined in claim 6.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DINH T. LE whose telephone number is (571) 272-1745. The examiner can normally be reached on Monday-Friday (8AM-7PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, TIMOTHY CALLAHAN can be reached at (571) 272-1740.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



DINH LE
Primary Examiner